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Case report

A case report of true prehallux

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ABSTRACT

Preaxial prehallux is a rare clinical manifestation among patients with polydactyly. Few cases arising from tarsal bones have been reported. We present a case of a true prehallux occurring in a patient with a bilateral complete cleft lip, palate, and alveolus.

Introduction

Preaxial prehallux is a rare clinical manifestation among patients with polydactyly. Few cases arising from tarsal bones have been reported. Cobey first reported a true prehallux in the literature and defined it as a complete great toe arising from the scaphoid.[1] Here we report a rare case of a true prehallux occurring in a patient with a bilateral complete cleft lip, palate, and alveolus.

Case report

A one-month-old boy presented with a bilateral complete cleft lip, palate, and alveolus, as well as a right preaxial prehallux. Cleft lip repair was performed on day of life 50. Foot X-ray when the child was 6 months old revealed that the toe was a hypoplastic bone and only the distal tip had central ossification in the accessory toe (Figure 1). The connection between the accessory toe and the tarsal bones was not clear because ossification centers in the tarsal bones were not yet apparent. There was a large

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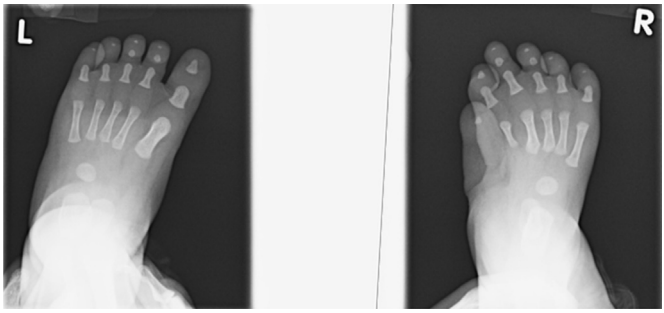

Figure 1. X-ray at 6 months.

Figure 2. Pre-operative photograph of the right foot. A large accessory toe arising from the dorsomedial border showing dorsiflexion.

accessory toe arising from the dorsomedial border of the right foot. The accessory toe had a nail and showed dorsiflexion independent from the hallux next to it. Furthermore, the hallux was small and short, but showed normal dorsiflexion (Figure 2).

The cleft palate and prehallux repairs were planned to occur simultaneously when the patient was 22 months old. For the correction of the prehallux, the skin excision was designed. Intraoperative findings revealed that the accessory toe was formed by cartilage and connected to the tarsal bones by

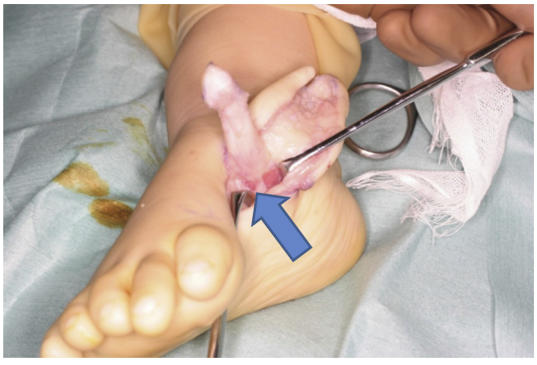

Figure 3. Intra-operative photograph. The accessory toe was formed by cartilage and the part of an abductor muscle attached to the lateral side (arrow).

Figure 4. Post-operative X-ray.

the anterior tibial muscle tendon (Figure 3). A muscle considered as part of an abductor hallucis muscle attached to the lateral side. The muscle with cartilage was excised and sutured to the lateral soft tissue of the metatarsal bone. The extra toe was removed along with its articular base in the tarsal scaphoid and the extra skin was trimmed and sutured. The patient's postoperative course was uneventful. One year after the operation the toe is still short, but he can walk and stand on his tiptoes without a problem (Figure 4).

Discussion

True prehallux is defined by Cobey as an accessory toe that arises from the level of the scaphoid bone.[1] The occurrence of a true prehallux is rare in humans. The prehallux was postulated to be an evolutionary characteristic exhibited by early amphibians and to have existed due to the appearance of facets on the carpal bones of the hand.[2]

Our case showed two phalanges of the prehallux in a cartilaginous state and the proximal one articulating with the medial border of the scaphoid bone; we thus considered this case as a true prehallux. There have been no other reports of true prehallux in a patient with a cleft lip, palate, and alveolus.

There are no rules regarding the timing of the operation to correct this condition. It is generally accepted that early operation encourages the development of the normal toe and plantar muscle. In our case, walking was no problem when the prehallux was fixed with adhesive tape. We were able to wait and to reduce the total amount of general anesthesia by operating on the cleft palate and prehallux simultaneously.

During the operation, there was no tendon attachment (e.g. tendon of extensor hallucis longus muscle), but part of the abductor muscle of the great toe was seen. Preoperative dorsiflexion of the accessory toe was accomplished by contraction of the abductor muscle of the great toe. It is known that invasive operations can cause hypoplasia and adhesion of the tarsal bone. In our case, we preserved the articulation and muscle transfer to the lateral soft tissue of residual metatarsal bone. Follow-up is necessary to evaluate normal growth.

Ethical approval

N/A.

Funding

None.

Conflicts of interest

None.

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